

CH2M Hill BWXT West Valley, LLC West Valley Demonstration Project

Report from the Department of Energy Voluntary Protection Program Recertification Review March 13-April 26, 2023





Office of Environment, Health, Safety and Security

U.S. Department of Energy Office of Environment, Health, Safety and Security Office of Health and Safety Office of Worker Safety and Health Assistance Washington, DC 20585

PREFACE

The Department of Energy (DOE or Department) recognizes that excellence can be encouraged and guided but not standardized. On January 26, 1994, the Department initiated the DOE Voluntary Protection Program (VPP) to encourage and recognize excellence in occupational safety and health protection. This program closely parallels the Occupational Safety and Health Administration (OSHA) VPP. Since its creation by OSHA in 1982, and implementation by DOE in 1994, VPP has demonstrated that cooperative action among Government, industry, and labor can achieve excellence in worker safety and health.

DOE-VPP encourages DOE contractors and subcontractors to surpass compliance with DOE requirements and achieve excellence through systematic approaches; emphasizing creative solutions through cooperative efforts with managers, employees, and DOE.

DOE-VPP bases program participation on the existence of comprehensive management systems that ensure employees are actively involved in assessing, preventing, and controlling the potential safety and health hazards at their sites. All DOE complex contractors may participate in DOE-VPP, including production facilities, laboratories, subcontractors, and support organizations. However, participation is not required. In keeping with DOE-VPP philosophy, *participation is strictly voluntary*. Additionally, any participant may withdraw from the program at any time.

DOE-VPP consists of three levels of participation (similar to those in OSHA VPP): Star, Merit, and Demonstration. The Star level recognizes outstanding protectors of employee safety and health. The Merit level is a steppingstone for participants that have good safety and health programs but need time and DOE guidance to achieve Star status. The Demonstration level allows DOE to recognize achievements in unusual situations that DOE needs to learn more about before determining approval requirements for the Merit or Star level.

Approving an applicant for participation in DOE-VPP demonstrates DOE recognition that the applicant exceeds the basic elements of systematic protection of employees at the site. Participants are provided certificates of approval and the right to use flags showing the appropriate DOE-VPP program level the site has achieved. Participants may also choose to use the DOE-VPP logo on its letterhead or award items for employee incentive programs.

This report summarizes the results from the triennial recertification review of CH2M Hill BWXT West Valley, LLC (CHBWV) at the West Valley Demonstration Project in West Valley, NY conducted from March 13 to April 26, 2023, and provides the Director of the Office of Environment, Health, Safety and Security with the necessary information to make the final decision regarding CHBWV's continued participation in DOE-VPP at the Star level.

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ABBREVIATIONS AND ACRONYMS

AOC	Ashford Office Complex
BLS	Bureau of Labor Statistics
BTZ	Beyond Target Zero
CAIRS	Computerized Accident Injury Reporting System
CAS	Contractor Assurance System
CFR	Code of Federal Regulations
CHBWV	CH2M Hill BWXT West Valley, LLC
DART	Days Aways, Restricted and Transferred
DOE	Department of Energy
EHSS	Office of Environment, Health, Safety and Security
EHSS-12	Office of Worker Safety and Health Assistance
EMD	Executive Management Directive
ESH&Q	Environment, Safety, Health, and Quality
GET	General Employee Training
HLW	High-Level Waste
ISMS	Integrated Safety Management System
IH	Industrial Hygienist
IT	Information Technology
Lodge 2401	International Association of Machinists and Aerospace Workers,
-	District 65, Local Lodge 2401
LOTO	Lockout/Tagout
MPPB	Main Plant Process Building
MWV	Management Workplace Visit
NAICS	North American Industry Classification System
NFPA	National Fire Protection Association
OITS	Open Items Tracking System
OSHA	Occupational Safety and Health Administration
PD	Program Description
PM	Preventive Maintenance
POMC	Performance Objectives, Measures, and Commitments
PPE	Personal Protective Equipment
RCT	Radiological Control Technician
SCIC	Safety Culture Improvement Committee
SME	Subject Matter Expert
STR	Subcontractor Technical Representative
STS	Safety-Trained Supervisor
Team	Office of Environment, Health, Safety and Security DOE-VPP Team
TRC	Total Recordable Case
VPP	Voluntary Protection Program
WIP	Work Instruction Package
WNYNSC	Western New York Nuclear Service Center
WVDP	West Valley Demonstration Project

EXECUTIVE SUMMARY

The Department of Energy (DOE) Voluntary Protection Program (VPP) Assessment Team (Team) from the Office of Environment, Health, Safety and Security (EHSS) conducted the triennial review of CH2M Hill BWXT West Valley, LLC (CHBWV) at the West Valley Demonstration Project (WVDP), located in West Valley, NY, from March 13 to April 26, 2023, and recommends that CHBWV continue to participate in DOE-VPP at the Star level.

WVDP, operated by CHBWV, was formerly the home of the Nation's only commercial nuclear fuel reprocessing facility. The DOE Office of Environmental Management Consolidated Business Center manages the WVDP contract with the mission of solidifying radioactive liquid high-level waste (HLW), disposing of process waste, and decommissioning the process facilities. Since 2011, CHBWV has been decontaminating facilities, removing radioactive waste and equipment, and demolishing obsolete structures. Recent milestones include the beginning of controlled Main Plant Process Building (MPPB) demolition in September 2022.

EHSS conducted the DOE-VPP review using a combined virtual and onsite approach to verify that CHBWV continues to meet expectations for participation at the Star level. The results of the review indicated that CHBWV is:

- Committed to ensuring it accomplishes its missions safely, without unnecessary or unanalyzed risks;
- Engaging the workforce in maintaining a strong safety culture and empowering workers to identify issues, recommend improvements, and stop and pause work when questions or issues arise;
- Correctly identifying and analyzing hazards using teams of subject matter experts, workers, and managers, and maintaining job hazard analyses for all work;
- Properly controlling hazards using the appropriate hierarchy of controls, and engaging safety and health professionals in processes to properly define, authorize, control, and complete work safely;
- Appropriately training and qualifying all workers, managers, and subcontractors to recognize and control the hazards they may encounter; and
- Maintaining accident and injury rates that are lower than the comparison industry.

CHBWV continues to maintain a strong safety culture that is ingrained in its workforce and promoted by management. The site has reinvigorated employee engagement opportunities in Beyond Target Zero teams and the Safety Culture Improvement Committee and recognizes that employee-driven initiatives are strong drivers of positive change.

The work priority shift to MPPB demolition has been a major influence on site operations, but managers and the workforce have made significant efforts to thoroughly plan demolition activities and consistently analyze and control hazards in the new work environment.

The site has taken seriously recent employee feedback about stopping work, showing both an active employee base willing and ready to raise concerns, as well as a responsive senior management team. The Team found that workers consistently took responsibility for their part in contributing to a safe work environment for themselves and their peers.

The Team identified some opportunities for improvement that have the potential to assist CHBWV to continue to empower its workforce and recognize the strengths of its staff. The Team did not identify any programmatic noncompliance with DOE safety requirements that would preclude participation in DOE-VPP. CHBWV continues to meet all the expectations for DOE-VPP, and the Team recommends CHBWV continue to participate in DOE-VPP at the Star level.

TABLE 1OPPORTUNITIES FOR IMPROVEMENT

Opportunity for Improvement	Page
CHBWV should make greater efforts to communicate BTZ team successes and share the implementation of improvements made, based on worker suggestions, to all site employees.	13
The associated BTZ team should work with employees to properly organize work areas and prevent conditions that may violate 10 CFR 851.	14
CHBWV should reduce the amount of lead time to provide site nurses with the list of employees randomly selected for drug testing to minimize the appearance of a possible impropriety.	20
CHBWV should update physical index cards with current maintenance procedures, including enough detail to prevent misunderstanding when less experienced workers are required to perform the work.	20
CHBWV should evaluate measures to enhance the Engineering and Planning Group's capabilities for long-term PM planning and incorporate PM feedback into procedure. CHBWV should consider actions such as expanding CHAMPS read access, enabling documentation of corrective maintenance by technicians, and requiring PM review as part of the work instruction closeout process during work on assets.	21
CHBWV should review its workplace inspection policies, procedures, training, and qualification requirements to ensure that affected workers are familiar with common hazards and safety related deficiencies and have the workspace and storage to prevent such issues.	22
CHBWV should consider implementing a program to allow managers to recognize individuals directly and reward at the time of recognition for their exceptional performance.	24
The CHBWV Training Group should evaluate the effectiveness and satisfaction of employees with site training, including online training in a formal matter by gathering feedback via training surveys.	27

I. INTRODUCTION

This report provides the Department of Energy (DOE) Director, Office of Environment, Health, Safety, and Security (EHSS), the results of the triennial review of CH2M Hill BWXT West Valley, LLC (CHBWV) at the West Valley Demonstration Project (WVDP), located in West Valley, NY, from March 13 to April 26, 2023. Based on this review, the DOE Voluntary Protection Program (VPP) Assessment Team (Team) recommends that CHBWV continue to participate in DOE-VPP at the Star level.

WVDP, operated by CHBWV, occupies part of the 3,300-acre Western New York Nuclear Service Center south of Buffalo, NY, managed by the New York State Energy Research and Development Authority. WVDP was formerly the home of the Nation's only commercial nuclear fuel reprocessing facility.

The DOE Office of Environmental Management Consolidated Business Center manages the WVDP contract with the mission of solidifying radioactive liquid high-level waste (HLW), disposing of process waste, and decommissioning the process facilities. The West Valley Site Office provides direct oversight and contract management of CHBWV. On September 6, 2022, the CHBWV contract was extended to November 4, 2024. CHBWV is comprised of three companies: (1) Jacobs; (2) BWXT Technical Services Group; and (3) Environmental Chemical Corporation.

As a result of reprocessing spent nuclear fuel at the West Valley site between 1966 and 1972, over 600,000 gallons of untreated HLW was produced. In 1980, Public Law 96-368, *West Valley Demonstration Project Act*, authorized DOE to solidify the HLW and decontaminate and decommission the site. DOE completed solidification of the HLW using vitrification and cementation in 2002. Work at the site is currently concentrated on demolition and decontamination.

Since 2011, CHBWV has been decontaminating facilities, removing radioactive waste and equipment, and demolishing obsolete structures. CHBWV has four major milestones: (1) complete the solidified HLW canister relocation; (2) process, ship, and dispose of all legacy waste offsite; (3) demolish and remove the Main Plant Process Building (MPPB) and the Vitrification Facility; and (4) disposition the remaining Balance of Site Facilities and supporting services. A recent milestone includes the initiation of controlled MPPB demolition in September 2022. There are approximately 310 CHBWV and 75 subcontractor workers employed at the site. The International Association of Machinists and Aerospace Workers District 65, Local Lodge 2401 is the bargaining unit representing CHBWV employees including radiological control technicians (RCT), safety technicians, operators, maintenance staff, and site custodians.

DOE-VPP awarded Star status at the WVDP site to a previous contractor in 1999. It was only the second DOE site to achieve this recognition level. CHBWV took over the WVDP contract in 2011 and requested DOE-VPP Star transition status. DOE evaluated CHBWV per the DOE-VPP transitional process requirements (DOE-VPP Technical Standard, 1232-2019) in 2013 and determined that CHBWV met the expectations for continued participation as a Star site. CHBWV was recertified as a DOE-VPP Star participant in 2017.

EHSS conducted this 2023 triennial review in accordance with DOE-VPP requirements to verify that CHBWV continues to meet DOE-VPP expectations for participation at the Star level. The Team conducted the review in two phases. From March 13-24, 2023, the Team utilized virtual methods to interview workers and managers, attend meetings, and review documents. The Team then performed onsite work observations, validations, and interviews April 17-26, 2023.

CHBWVs commitment to environmental, safety and health programs that protect employees and the public is strong and evident. CHBWV maintains an excellent safety performance record, consistently maintaining injury rates 70 percent or more below its comparison industry. This report contains a review and discussion of CHBWV injury and illness rates, and an assessment of safety management system elements compared to the DOE-VPP tenets of Management Leadership, Employee Involvement, Worksite Analysis, Hazard Prevention and Control, and Safety and Health Training. The report also supports the Team's recommendation that CHBWV continue participating in DOE-VPP at the Star level.

II. **INJURY INCIDENCE CASE RATES**

To maintain DOE-VPP Star status the contractor's average for both Total Recordable Case (TRC) rates and Days Away, Restricted, or Transferred (DART) case rates for the most recent 3year period shall be at or below the most recent specific industry national average North American Industry Classification System (NAICS) code published by the Bureau of Labor Statistics (BLS).

The following table presents the most recent 3-year period data validated by the Team using the site's OSHA 300 logs, the DOE Computerized Accident Incident Reporting System (CAIRS), the Team's calculation of the TRC and DART rates, and the specific industry national averages for the comparison industry.

Injury Incidence Case Rates – Contractor Employees (WVDP – CAIRS Org Code 4539004)						
Calendar Year	Hours Worked	TRC	TRC Incidence Rate per 200,000 hours	DART	DART Case Rate per 200,000 hours	
2020	444,712	0	0.00	0	0.00	
2021	504,994	3	1.19	1	0.40	
2022	552,879	2	0.72	2	0.72	
3-Year Totals	1,502,585	5	0.67	3	0.40	
BLS 2021 average for NAICS 562910 Remediation Services			2.40		1.90	
Injury Incidence Case Rates – Subcontractor Employees (WVDP – CAIRS Org Code Various combined)						
Calendar Year	Hours Worked	TRC	TRC Incidence Rate per 200,000 hours	DART	DART Case Rate per 200,000 hours	
2020	61,790	0	0.00	0	0.00	
2021	70,921	0	0.00	0	0.00	
2022	105,262	0	0.00	0	0.00	
3-Year Totals	237,973	0	0.00	0	0.00	
BLS 2021 average for NAICS 562910 Remediation Services		2.40		1.90		

TRC Incidence Rates, including subcontractors: 0.57 DART Case Rates, including subcontractors: 0.34

Discussion

As of April 2023, CHBWV employed approximately 310 full-time employees and approximately 75 service subcontractors. No temporary workers are employed. For the 3 years before this assessment, from 2020 to 2022, CHBWV experienced five TRCs, resulting in a 3-year TRC rate of 0.67. During the same period, CHBWV had three DART cases, resulting in a DART case rate of 0.40. CHBWV has had zero TRC and zero DART cases for the current year to date. The Team did not identify any incentives that would discourage workers from reporting injuries. Interviews with workers indicate they do not fear reprisal for reporting and acknowledge that managers encourage the reporting of an injury, incident, near-miss, or first aid case.

The Team conducted a random sampling of CHBWV's DOE CAIRS database cases, and the results indicate the recordkeeper is documenting all injuries/illnesses correctly. The site is maintaining complete and accurate recordkeeping logs, including the OSHA 300 Log, 300A Summary, and comparable 301s. The 300A Summary meets the requirements of the recordkeeping standard, the recordkeeper posts it on the site's main bulletin board during the required period, and it remains accessible to all personnel throughout the calendar year. The logs reflect the safety and health conditions under this contractor's control.

The CHBWV recordkeeper has completed CAIRS training and on-the-job training from their predecessor and is knowledgeable of the recordkeeping requirements. CHBWVs TRC and DART rates are 72 and 79 percent lower, respectively, than the BLS comparison industry average for its NAICS code and meet the expectations for continued DOE-VPP participation.

III. MANAGEMENT LEADERSHIP

Management Leadership is a key element in obtaining and sustaining an effective safety culture and implementing the guiding principles of integrated safety management. The contractor shall demonstrate senior level management commitment to integrated safety management, occupational safety and health, and meeting the requirements of DOE-VPP. Management systems for comprehensive planning shall address safety and health requirements and initiatives. Elements of that management system shall include: (1) clearly communicated policies and goals, (2) clear definition and appropriate assignment of responsibility and authority, (3) adequate resources, (4) accountability for both managers and workers, and (5) managers shall be visible, accessible, and credible to employees. As with any other management system, the organization shall integrate authority and responsibility for employee safety and health with its management system and shall involve employees at all levels of the organization.

During the 2017 DOE-VPP assessment, the Team found that CHBWV managers were committed to completing the contract milestones on time or early and recognized excellent safety and health performance as a contributor to success. They managed a variety of challenges toward that goal in a manner that preserved the safety and health of the workforce. CHBWV management also recognized the contributions workers made daily and continued to emphasize the value of a deliberate approach to work in which workers could question work methodology, site conditions, and assumptions.

In 2023, the CHBWV management team continues to emphasize that performing work must start with safety in mind. The General Manager reiterates in meetings across the site that management is committed to a safe work environment. All levels of management reinforce this message. To plan and prepare for MPPB demolition, management completed a Line Management Self-Assessment, Contractor Readiness Assessment, and a DOE Readiness Assessment. CHBWV also implemented lessons learned from the onsite Vitrification Facility demolition. CHBWV management also sent a team to the Hanford Site near Richland, WA, to conduct a benchmarking visit of the site's Plutonium Finishing Plant demolition and decommissioning and implemented lessons learned for MPPB demolition as discussed in the Worksite Analysis section.

CHBWV has established clear written policies, roles and responsibilities, and goals and objectives and communicated them to all employees. Site documents WVDP-585, WVDP Worker Safety and Health Plan; WVDP-900 WVDP, Worker Safety Policy; and WVDP-310, WVDP Safety Management System (SMS) Description, provide general guidelines for implementing high quality programs and operations in a healthy, safe, and environmentally sound manner. Other documents, including WVDP-935, Management Expectations-Safety, Changing Conditions and Hazards and Stopping Work, and WVDP-921, Hazards Identification and Analysis, provide more specific requirements to drive safe work practices. These documents describe how CHBWV addresses DOE-VPP critical elements and meets or exceeds the regulatory requirements established in Title 10, Code of Federal Regulations (CFR) Part 851 (10 CFR 851), Worker Safety and Health Program. Employees state they are aware of their responsibilities to ensure a safe work environment. CHBWV has established programs and policies for orienting employees, vendors, consultants, and visitors and holding them accountable while onsite. Environment, safety, health, and quality (ESH&Q) staff work with procurement staff to flow down 10 CFR 851 requirements into subcontracts and review subcontractor safety plans. Industrial safety staff monitor subcontractors to ensure adherence to site safety standards.

The Team noted instances where work was not started if subcontractors questioned safety requirements. Prior to work being commenced, the questions were resolved.

Workers, line supervisors, and middle managers interviewed by the Team consistently stated that senior leaders maintained a visible presence in onsite operations. Employees reported they see managers conducting Management Workplace Visits (MWV) on a regular basis to ensure necessary training has been provided and personal protective equipment (PPE) and other safety-related equipment is available to perform tasks safely. CHBWV Executive Management Directive (EMD)-010, *Management Workplace Visit Program*, provides guidance on performing MWVs, including frequency, and establishes guidelines for analyzing results and reporting performance indicators. The CHBWV MWV program promotes management presence in the workplace as a fundamental demonstration of the company's values of safety, integrity, teamwork, productivity, and results. CHBWV also leverages the expertise and leadership of senior supervisors using Senior Supervisors Watch reports. Senior Supervisors Watch reports connect high-level leadership and experience with supervisors and workers performing key evolutions to further ensure that managers are visible and engaged with promoting safety and health.

Managers and supervisors conduct daily morning Safety Assessment Center meetings that always include a safety share or lessons learned discussion, as well as the plan-of-the-day. Supervisors then meet with workers to flow down safety shares, discuss daily activities, ensure work instruction packages are up to date, and review hazard controls. A similar shift turnover meeting provides Safety Assessment Center report safety briefs, status reports, and work plans to the second shift. The Team observed good engagement from both leaders and workers while attending these meetings. Safety and health professionals also attend Safety Assessment Center meetings as resources and to provide input. Also, the Team observed line employees taking ownership and responsibility for safety and actively engaging with supervisors and managers to clarify and discuss safety aspects of planned work.

CHBWV has implemented several measures to ensure senior leadership hold line managers and employees accountable for safety while improving manager involvement in safety and health activities. Directive EMD-015, Integrated Management Review Board, directs formation and activity of a board to foster a collective leadership review of site performance, evaluate corrective actions, and promote a safety conscious work environment. Directive EMD-008, CHBWV Executive Management Directive – Executive Safety Review Board, drives another board of senior leaders to review program effectiveness and oversee the site response to safety significant events. The site's General Manager and Deputy General Manager lead both quarterly town hall all hands meetings and regular "360 meetings" with various work groups. The "360 meetings" give employees an opportunity to ask questions and hear updates from senior managers in a small, relaxed group setting. Employee-based groups like the Safety Culture Improvement Committee (SCIC) and Beyond Target Zero (BTZ) teams also give voice to a large cross-section of workers while providing opportunities to interact with managers. Managers set safety expectations as the top goal in management performance objectives. Safety performance goals flowed down from the highest levels, combined with broad measures to encourage management visibility, ensure that leaders are consistently accessible for worker safety concerns and encouraged to prioritize safety.

During the 2017 assessment, the Team identified that some workers were uncomfortable or hesitant to raise safety issues without fear of retaliation. During this assessment, the Team interviewed many workers at various position levels who responded that this is no longer the case. CHBWV fosters free and open expression of safety concerns without fear of reprisal, maintains safe and productive working environments, and holds workers at all levels accountable for workplace safety. Line workers and managers interviewed repeatedly recognized their responsibility to maintain a safe work environment for themselves and their coworkers. The Team observed good communication and interaction between workers and supervisors indicating that line workers were aware of industrial safety organization resources, understood the safe work parameters established by safety professionals, and used those resources to support their work. For example, the Team observed a sudden squall of wind pick up during early second shift preparations for debris removal activities. Site workers immediately recognized that the condition was outside of normal operating mode because of their familiarity with safety requirements. Managers quickly approved a work pause until conditions improved, fulfilling their responsibility to prioritize safety over schedule. Workers who wish to remain anonymous have submitted safety issues through the Employee Concerns Program manager. While there has been an increase in employee concerns submitted compared to previous years, employees stated it is because the culture has improved, and workers feel more empowered to submit concerns. A critical aspect of employees' empowerment to raise safety issues is the ability to stop work. Managers and workers at various levels readily noted their ability to stop work without retaliation and their responsibility to contribute to a safe workplace. A recent documented employee concern for inadequate response to employees attempting to stop work with a subcontractor was brought up to the Team while onsite. The Team discussed the recent stop work concern with managers and workers on both shifts. Many were aware of the issue, but all staff responded that they knew and felt comfortable in their ability to stop work. The same issue resulted in a "lunch and learn" session directed at site managers and supervisors from the first and second shifts. During the session, the General Manager emphasized WVDP-935, Management Expectations – Safety, Changing Conditions and Hazards, and Stopping Work, and noted planned procedure updates to clarify this instruction. One point emphasized was that using clear language is key for workers and managers to communicate safety concerns, noting that phrases like "I have a question" versus "We need to stop work" may both be mechanisms for raising a concern but may receive different responses. Another point emphasized to managers was that two potential reasons may exist for someone to call a pause or stop work: conditions are unsafe and warrant stopping, or a worker perceives unsafe conditions or is unsure of their safety. Until the work is stopped, both conditions are the same from the worker's perspective. Site managers were provided this briefing in addition to Crucial Conversations training by the communication director and were directed to flow the information from this meeting down to all workforce levels. The Team felt that site leadership took the stop work concerns seriously and provided a thorough response.

The CHBWV health and safety staff and resources budget is adequate for the size of the organization and associated hazards. CHBWV has over 54 personnel, including safety and RCTs, industrial hygienists, and third-party New York State asbestos control subcontractors dedicated to ESH&Q functions. The Team did not receive any complaints from program personnel regarding the availability of resources for ESH&Q.

The CHBWV senior management team is providing the leadership necessary to guide the organization to achieve safe demolition and disposal of MPPB. Open communications within the

senior management team and in-partnering sessions with DOE has led to a common understanding of goals and issues that have the potential to negatively affect performance. The management team has worked collaboratively to resolve potential issues as they arise and to promote advancement of organizational goals with the workforce. Senior management is committed to meeting the goal of zero work-related injuries and illnesses, regulatory enforcement actions, and adverse impacts to the public and the environment.

CHBWV senior leaders maintain regular meetings and communication with site bargaining unit leadership representing the International Association of Machinists and Aerospace Workers, District 65, Local Lodge 2401 (Lodge 2401). Lodge 2401 covers only CHBWV employees including RCTs, safety technicians, operators, maintenance staff, and site custodians under two collective bargaining agreements. Interviews with both CHBWV leaders and union leaders noted good access between top executives and the bargaining unit, swift consideration of union concerns, and strong ownership and support of safety and health by union leaders and workers. The start of MPPB demolition presented the potential for workforce friction because a large portion of work had been subcontracted to American Decommissioning and Nuclear Demolition, Inc., thereby placing contractor workers near Lodge 2401 workers. Since demolition began, Lodge 2401 has submitted 16 grievances, none of which were described to the Team as safety related. The Team observed that CHBWV senior leaders are taking steps to understand working dynamics and reinforce work safety expectations with managers and staff at all levels to help alleviate polarization between Lodge 2401 and subcontractor workers. Interviews with CHBWV workers noted positive interactions during regular work activities with subcontractor staff. It is critical that CHBWV managers, CHBWV workers, and subcontractor workers maintain focus on safe work execution.

As the COVID-19 Pandemic started, CHBWV experienced only a 2-month pause in operations while it developed plans and implemented controls to return to demolition work. As pandemic restrictions lessened, CHBWV maintained its workforce primarily onsite or working at the Ashford Office Complex (AOC), with only a few workers telecommuting. In the years prior to this DOE-VPP assessment, CHBWV had experienced attrition of nearly a third of its workforce, mostly from retirement-eligible personnel and worsened by the COVID-19 Pandemic. Management and supervisors acknowledged that the COVID-19 Pandemic accelerated retention issues for workers within the retirement window, as well as recruitment of new staff. CHBWV has implemented a backfill program allowing management to hire certain positions to prevent a detrimental impact to operations. When possible, management brings these replacements onboard to receive training prior to experienced personnel leaving active employment. In some cases, CHBWV contracts retirees with expert site and equipment knowledge as subcontractors to help with knowledge transfer to new employees.

CHBWV formed a staffing committee, chaired by the Deputy General Manager, that included senior managers and human resources professionals to actively address staffing challenges. For example, the site is working to "home-grow" RCTs by recruiting untrained workers and providing in-house training to address a recruiting pool shortage. The site communications director also oversees a recently launched mentoring program to preserve and share institutional knowledge within and among the organization and to provide that same knowledge to newer members of the workforce. Interviews by the Team noted that initial response and participation have been positive with staff requesting to be added as mentors in the program.

The CHBWV communications director has developed and implemented a comprehensive mission communications plan focused on providing current, accurate project information to employees, subcontractors, and other external stakeholders. The plan defines a proactive structure for communicating information related to the safe management and environmentally compliant operation of the site. Multiple communications channels ensure all potentially impacted site personnel and stakeholders receive key messages in the appropriate sequence and in a timely manner. The communication plan methods include meetings with the public and with the Citizen Task Force of local stakeholders, regular project status reports and safety email messages, and all-employee and all-manager meetings that include safety shares. Additional communication outreach efforts to external stakeholders include published articles, the CHBWV website, physical and electronic public "reading rooms," media relations, and community outreach.

As an extension of efforts to support strong internal communication channels, the communications director also facilitates soft skill training via "lunch and learn" sessions. Managers received training on leadership, managerial skills, communications, employee engagement, and other topics of interest. The training also discusses safety culture and what it means to be a learning organization, including how managers and supervisors can unintentionally contradict the organization's desire to learn from errors and issues. Many managers interviewed described how this training changed the way they looked at themselves and self-identified examples where they dismissed an employee issue or did not recognize an opportunity to respond to employee concerns.

CHBWV has an extensive annual self-assessments process of its safety and health programs it uses to submit its annual DOE-VPP report as required by the DOE-VPP Technical Standard. The scope of the annual integrated safety management system (ISMS) and DOE-VPP assessment includes all projects, facilities, and activities managed by CHBWV. In addition to internal reviews, CHBWV utilizes a combination of third-party audits, peer reviews, independent assessments, and external certifications to validate CHBWV performance. The integrated assessment program is part of the Contractor Assurance System (CAS) and targets specific program areas such as nuclear safety, respiratory protection, and the training program. CHBWV organizations responsible for the target program complete the assessments based on a schedule issued by the Performance Assurance organization. ESH&Q staff distributes results to all site employees ensuring management awareness of safety performance and improvement actions.

CHBWV completes and submits CAS reports containing performance dashboards and trend analysis of occupational health, industrial safety, radiological controls, training, emergency management, safeguards and security, environmental program, performance and quality assurance, nuclear safety, Price-Anderson Amendment Act, and cyber security. The CAS report is not only a mechanism for reporting contractual obligation status to external stakeholders but also a way the site informs managers of trends, activity performance, and issue status. CHBWV established annual Performance Objectives, Measures, and Commitments (POMC). POMCs closely follow the Performance Evaluation and Measurement Plan (PEMP) as defined by the contract to collect inputs, including safety aspects from various site organization and rate annual performance. CHBWV senior management reviews and updates its POMCs consistently and in response to DOE program and budget execution guidance on an annual basis.

Conclusion

CHBWV leadership actively participates in establishing and communicating its commitment to providing a healthy and safe work environment for its workers, ensuring they go home in the same conditions as they came into work. The site is committed to holding workers and managers accountable for their roles and responsibilities while providing resources necessary to accomplish its mission safely without unnecessary or unanalyzed risks. CHBWV managers emphasize safety and personal ownership and create a culture of trust and empowerment with workers. CHBWV leadership is proud of the positive culture at the site and encourages workers and managers to seek out ways to identify continuous improvement. CHBWV fosters free and open expression of safety concerns without fear of reprisal, maintains safe and productive working environments, and holds workers at all levels accountable for workplace safety. They provide tools and resources to engage CHBWV employees in safety improvements and have demonstrated a willingness to listen to worker's ideas and drive continuous improvement. CHBWV meets the expectations for Management Leadership and continued participation in DOE-VPP.

IV. EMPLOYEE INVOLVEMENT

Employees at all levels shall continue to be involved in structuring and operating the safety and health program and in decision making that affects employee health and safety. Employee involvement is a major pillar of a strong safety culture. Employee participation is in addition to the right to notify managers of hazardous conditions and practices. Managers and employees shall work together to establish an environment of trust where employees understand that their participation adds value, is crucial, and is welcome. Managers shall be proactive in recognizing and rewarding workers for their participation and contributions. Employees and managers shall communicate and collaborate in open forums to discuss continuing improvements, to recognize and resolve issues, and to learn from their experiences.

In the 2017 DOE-VPP Review Report, the Team concluded that CHBWV maintained strong employee involvement. Employees were engaged in continuous safety culture improvement and were committed to maintaining a safe work environment. BTZ teams were developed, and continue to serve, as CHBWV safety improvement committees and were comprised of management sponsors, subject matter experts (SME), and all level of employees. The BTZ teams actively encouraged worker input and tracked and resolved employee-generated issues during the 2017 assessment, but the BTZ teams were not as employee-owned as in earlier reviews. CHBWV managers recognized the positive contributions of worker input in resolving project challenges. Employee participation in a variety of projects demonstrated employee involvement, but the Team recommended that CHBWV must continue encouraging employee input and recommendations for each project, while simultaneously encouraging additional worker participation on BTZ teams.

During this review, all BTZ teams observed demonstrated greatly improved employee involvement and supportive management champions compared to the 2017 review. CHBWV initiated a reinvigoration of the BTZ teams following the COVID--19 Pandemic and the shift to the MPPB demolition phase of the contract. For example, some BTZ teams were merged to capitalize on shared efforts. All charters were reviewed and refined to reflect current purposes and improve worker involvement in the committees. These improvements were necessary to address the new scope of activities being performed at the site, as well as the approximately onethird employee turnover experienced in the past 3 years. CHBWV was concerned that the significant turnover might lead to a potential safety culture loss.

Several BTZ teams exhibited improved engagement as a result of the program refresh. As a result of worker suggestions, the Waste and Site Operations BTZ team identified and implemented several improvements to site lighting issues, improved walkways, and dedicated routes for utility task vehicles and forklift operation to avoid potential traffic incidents. This BTZ team also noted that the pathway used for rail inspection was very narrow. In the winter, snow buildup limited personnel access to perform rail line inspections and resulted in potential hazards for the workers. The BTZ team recognized the hazards and advocated for expanded pathway dimensions to allow adequate access and snow removal. Workers on the BTZ team also recommended the site fence line be moved further out to create new walkways and improve separation from the MPPB demolition hazards, such as noise related to heavy equipment operation, and the potential for contamination to personnel during the demolition activities. The Waste and Site Operations workers also raised the concern to their BTZ team that intermodal container preparation conducted in the outdoor elements were inefficient and increased potential

hazards due to weather conditions. Workers suggested that the drum cell storage building could serve as a potential indoor site for this work, eliminating weather delays and improving worker safety. CHBWV responded to the BTZ team's initiative, evaluated changes to the drum cell building needed to support performing the intermodal container preparation, and implemented the process change to prepare intermodals more safely and efficiently inside.

The AOC BTZ team identified several improvements related to office-related hazards through enthusiastic employee involvement. The AOC BTZ team supported the "Adopt a Doorway" program that solicited team volunteers to arrive early and ensure walkways and doorways were shoveled and salted prior to employee arrival. The AOC BTZ team also supports initiatives through its members to perform safety walkdowns inside and outside within the building, perform quarterly evacuation drills, and address other safety concerns raised by employees through the committee meetings.

The CHBWV Safety Culture Improvement Committee mission includes the monitoring of program sustainability efforts, making improvement recommendations for continuous improvement of safety culture, and monitoring improvement actions and effectiveness. The SCIC evaluated a procedure noncompliance issue related to a procedural National Environmental Policy Act evaluation requirement that was overlooked after a senior environmental staffer retired. While the procedural noncompliance ultimately did not result in a reporting violation, the issue identified that retirement of experienced personnel may result in potential procedural noncompliance if new employees are not well-versed in the history and requirements of the project. The recognition of this concern lead CHBWV to support rehiring employees with historical project knowledge after retirement as part-time subcontractors to ensure program integrity and assurance.

An active SCIC initiative is to address information technology (IT) degradation at the site. The IT system at WVDP is an ad hoc system that has never been formally upgraded. Workers in the SCIC identified that the limited IT capability is impacting certain elements of the project, such as the Radiation Control and Waste Handling groups' reliance on computer-based documentation of activities. The SCIC is seeking IT upgrades to the site infrastructure to support continued activities. The Team observed an informative discussion amongst the attendees to identify project elements that need IT improvement priority to ensure the efficient operation.

The PPE Safety Committee identified that the current inventory of self-contained breathing apparatus units will soon meet their life expectancy and will need to be replaced. The PPE Safety Committee chair has brought this issue to the attention of CHBWV, and the replacement of the equipment is being scheduled. The PPE Safety Committee also identified through worker input, that the respirator attendant needed additional support during the shift change. As a result of worker input, the committee recognized that the number of workers ending their shift and new shift coming in is overwhelming the attendant's ability to properly manage respirator turn-ins. The PPE Safety Committee chair immediately identified additional personnel and engaged the management champion to assign more resources to aid this effort during shift turnover. The actions of the committee are an endorsement of excellent employee involvement and strong management support in addressing concerns.

Throughout the Team observations of the BTZ meetings and interviews with the members, it became apparent that the success and achievements of the various committees were not well

known beyond the committee members and the individuals who had raised the initial concerns or suggestions. The policy of the committees when addressing employee suggestions or concerns is to communicate with the originators regarding the outcome and closure of their concern. However, the successes of the BTZ teams were not communicated throughout the organization. CHBWV should make greater efforts to communicate BTZ team successes and share the implementation of improvements made, based on worker suggestions, to all site employees.

Opportunity for Improvement: CHBWV should make greater efforts to communicate BTZ team successes and share the implementation of improvements made, based on worker suggestions, to all site employees.

All employees benefit from awareness of the improvements driven by worker input and the various committees' efforts to accomplish those improvements. The communication of those successes will encourage other employees to raise issues or suggest improvements because they will have recognized that the committees are making a difference and acting on employee concerns in a constructive manner. The CHBWV VPP lead discussed intentions to include the BTZ achievements/successes during the quarterly all-hands meetings to reinforce the committee-driven improvements on behalf of employees. The Team supports this effort and encourages CHBWV to promote the BTZ team's successes sitewide to encourage continued employee involvement.

A CHBWV Safety Day was held on August 31, 2022. The day included activities sponsored by the employee led BTZ teams. Safety Day events were intended to increase employee familiarity with safe work practices while enhancing employee awareness of key safety topics, such as extension cord use, heavy equipment awareness, new and changing conditions at the site, and other pertinent safety topics. A guest speaker gave a talk on slips, trips, and falls to bring awareness to the most common injuries experienced at the WVDP.

As part of the mentoring program, CHBWV contracted with retirees to provide critical historical knowledge to support the disposition of the MPPB.

Mentoring allows employees who demonstrate a desire to move to a new position to work with a senior employee and develop the skills necessary to assume that new position. Employees who wish to elevate to a newer position are matched with senior-level employees in that field to encourage their development. An example of this approach can be illustrated with a junior industrial hygienist (IH) recently hired to learn the job from a senior IH. These efforts are designed to allow current employees the opportunity to gain knowledge from experienced employees.

The involvement of bargaining unit personnel in the BTZ teams enhances input to identify and address worker concerns. The value of bargaining unit employees' input was demonstrated with the Waste and Operations worker's BTZ team recommendation to utilize the drum cell storage building for the intermodal preparation and implement site re-lighting. An example of where greater worker involvement would be beneficial is with the conditions the maintenance staff, electricians, and welders are experiencing in their workshop areas within the warehouse building. Historically, these employees have been housed from location to location to meet the increasing need to "reduce the footprint of the site." That relocation results in shops being relegated to

whatever area is available after other buildings or areas are eliminated. The current location of these workers is in an area within the warehouse building. The shop sizes are limited in space and the equipment and materials present challenges for storage and areas to perform their work. Interviews with electrical workers highlighted that maintenance employees have been developing improvements in their free time, such as storage racks within their areas to help organize and free up space. The workers are performing these improvements when time allows so the improvements are slow in coming. Workers interviewed stated that their supervisors attended BTZ team meetings, but the supervisors had not solicited their input in all cases. Communication between workers and their supervisors is critical to encourage workers to raise concerns and improve worksite conditions through the BTZ process. CHBWV safety inspections of the maintenance shops routinely identify 10 CFR 851 compliance items, such as blocked circuit boxes, tripping hazards, etc. These issues are usually corrected on the spot by the inspecting safety technician. However, interview responses noted that available space is a barrier against proper storage and organization. A strong counter to housekeeping issues is making the proper storage technique easier than the noncompliant workaround. The associated BTZ team should work with employees to properly organize work areas and prevent conditions which may violate 10 CFR 851.

Opportunity for Improvement: The associated BTZ team should work with employees to properly organize work areas and prevent conditions that may violate 10 CFR 851.

Conclusion:

CHBWV demonstrated its continued improvement to the BTZ team process since the 2017 DOE-VPP review. The CHBWV reinvigoration of the BTZ teams has improved their effectiveness by addressing the changing scope of the contract to main plant demolition and the relationships associated with the organizations' changes. CHBWV should continue to seek out methods to increase shift worker participation in the BTZ committees to improve the BTZ committees' ability to identify and address worker identified issues effectively. CHBWV meets the expectations for Employee Involvement and continued participation in DOE-VPP.

V. WORKSITE ANALYSIS

Management of health and safety programs shall begin with a thorough understanding of all hazards that might be encountered when working and the ability to recognize and control any new hazards. Implementation of the first two core functions of an ISMS, defining the scope of work and identifying and analyzing hazards, form the basis for a systematic approach to identifying and analyzing all hazards encountered during work. The results of the analysis shall be used in subsequent work planning efforts. Effective safety programs also integrate feedback from workers regarding additional hazards that are encountered and include a system to ensure that new or newly recognized hazards are properly addressed. Successful worksite analysis also involves implementing preventive and/or mitigative measures during work planning to anticipate and minimize the impact of such hazards.

CHBWV IHs maintain a comprehensive site baseline survey book. Updates to the baseline surveys are conducted regularly, often on an opportunistic basis during MPPB demolition or other site operational shutdowns. Monitoring efforts have primarily focused on radiation, asbestos, noise, and airborne dust (silica) since the MPPB demolition began. ESH&Q staff conduct constant monitoring using in situ instruments, as well as regular walkdowns and swipes by RCTs and safety technicians. For example, IHs have established MPPB demolition area total dust emission gravimetric monitors (not real time) and correlated those readings with real-time dust personnel monitors to maintain a thorough indication of site conditions.

IHs also adjust surveying strategies as conditions change. Safety personnel monitor conditions for heat stress using wet globe bulb temperature calculated from indicator readings deployed in general site locations or with specific work crews. ESH&Q staff coordinate with Plant Systems Operations to make plant wide announcements when instituting heat-related work stoppage and also send individual text messages. IHs also attend prejob briefs and turnover meetings to support preplanning for hot conditions or other expected situations based on monitoring history.

Results of MPPB demolition area noise surveys during hammer operations drove CHBWV managers to provide hearing protection and require personnel transiting around the perimeter of demonstration area to wear hearing protection. Its incorporate the results of surveys into work instructions during the hazard screening process. Additionally, IHs and safety personnel review work instructions before release to ensure that surveillance data is adequate for the job and to implement additional monitoring as needed. Survey data is regularly reported to managers via emailed reports and is available in hard copy for workers.

CHBWV personnel analyze new work activities, equipment, and worksites to identify and address hazards. Directive WVDP-585, *WVDP Worker Safety and Health Plan*, identifies hazard analysis by qualified personnel as a mechanism for implementation of 10 CFR 851 requirements. The primary written work instruction mechanism for the site is the Work Instruction Package (WIP). Directive WVDP-921, *Hazards Identification and Analysis*, directs the review of WIPs for associated hazards using the WVDP-3909, *Activity Hazard Analysis*, form. CHBWV trains work planners to perform general hazard analysis screening. Work planners and cognizant managers initially identify hazards when preparing WIPs, but IH, safety, radiological control, and other technical expertise supplements the hazard analysis via the WIP review and approval process. Additionally, safety technicians, supplemented by IHs as needed, provide an additional

barrier against unanalyzed work release by issuing industrial work permits prior to work authorization.

Interviews with safety technicians noted that walkdowns of planned work are a key component of job planning and typically incorporate a variety of stakeholders including operators, supervisors, planners, safety technicians, and radiation control technicians. Workers may be included in the planning and analysis process during walkdowns and during briefs prior to industrial work permit releases. Interviews with multiple workers noted involvement in prejob review of job hazards and familiarity with the presence of safety technicians or IH staff both during job planning and in the field. The industrial safety manager also highlighted the critical input of workers with an example of holding job planning meetings where the absence of operators was flagged. Operators were brought in to participate in the review and provided feedback on operating constraints that ultimately led to work plan adjustment.

The MPPB demolition was a primary site activity during the DOE-VPP review. Work planning began in 2014 and was broken into 82 parts. Each part was reviewed by radiation control, safety, waste management, environmental affairs, and other stakeholders. Lessons learned from the Hanford Plutonium Finishing Plant demolition and the WVDP Vitrification Plant demolition were also incorporated into the safety review of MPPB demolition work and were shared with site managers. For example, CHBWV relocated personnel not directly involved in MPPB demolition activities to the AOC a short distance away from the site and removed from direct industrial hazards of the project. Boundaries were erected and the controlled perimeter was extended to further prevent personnel from entering hazardous areas unnecessarily. CHBWV directed development of a three-dimensional model to aid work planning efforts. A contracted third party modeled radiation effects both outside the site and onsite to establish a safety basis for the project. Protected assumptions were developed as bounding operating conditions derived from various radiation effects model aspects for demolition activities. Protected assumptions were incorporated into the MPPB demolition WIP in addition to other hazard analysis criteria. The Team reviewed portions of the MPPB demolition WIP and noted the three-dimensional model segment views that provide a visual of expected work conditions combined with work instructions and hazards for each planned demolition section. The Team also observed strong discussion of hazards for upcoming work among managers, safety staff, and workers during shift turnover meetings.

CHBWV managers and industrial safety staff perform routine inspections to look for introduced hazards and verify hazard controls. Safety technicians and safety technician supervisors conduct staggered quarterly walkdowns per WVDP-3063, *Safety/Industrial Hygiene Quarterly Inspection,* throughout the entire facility with each focusing on a primary safety aspect. Technicians review the documented results with the industrial safety manager. Interviews with safety technicians noted that the group rotates area responsibilities periodically to ensure that fresh eyes are performing each quarterly inspection. The Team observed a quarterly safety inspection of the 4-Plex area focused on housekeeping items. Technicians noted some hazards including inappropriate ladder storage, insect repellent stored outside of a flammable materials locker, and inadequately labeled secondary chemical storage containers. Technicians correct many simple hazards on the spot and documented the corrections per WVDP-3063. Hazards and issues with more complex or longer-term closure require entry in the Open Items Tracking System (OITS). Safety technicians described good area supervisor responsiveness when inspections identified concerns but also noted that prevention of some repeat issues was difficult

to effectively implement (see Employee Involvement). Industrial Safety and Performance Assurance staff who contribute to the Price-Anderson Amendment Act program, also review the quarterly safety, monthly radiation protection, and monthly fire protection inspections, for trends and repeat issues. Interviews with Price-Anderson Amendment Act program staff noted that the inspection data analysis is reported to managers via the CAS report and discussed during safety program committee meetings for potential follow-up actions. Engagement of safety program committees and area supervisors is critical to lessening the need for corrections on the spot during quarterly inspections and addressing the identified hazards' root causes.

MWVs provide opportunities for managers to interact with staff in the field while also supplementing routine safety inspections of the site. MWV results are documented and rolled up into monthly CAS reports to highlight positive and negative trends. In 2022, managers completed 139 MWVs noting 69 positive attributes and 21 negative attributes. Senior Supervisors Watch reports similarly provide a mechanism for seasoned or high-level managers to engage with workers and oversee various operational evolutions with a focus on critical activities or in response to negative performance trends. Directive WVDP-924, *Senior Supervisory Watch* (*SSW*), directs managers to provide immediate feedback to the observed worker team, and the site documents results in reports with open actions logged in OITS. The combination of safety personnel and manager routine inspection activities observed by the Team constitute the DOE-VPP monthly verification requirement covering the whole worksite quarterly in accordance with DOE-Standard (STD)-1232-2019/1, U.S. Department of Energy Voluntary Protection Program -Program Structure, Volume 1 of 4, section II.E.3.c.(1).

CHBWV employees work in an environment that encourages personal responsibility for safety. Workers interviewed were confident in their ability and duty to notify coworkers and managers of hazards and changing conditions and stop work, if necessary, per WVDP-935, Management Expectations-Safety, Changing Conditions and Hazards, and Stopping Work. Workers have multiple methods available to report hazardous conditions. The most immediate notification route is directly to supervisors, safety technicians, or other Industrial Safety department staff readily available in the field. Workers may bring concerns up during BTZ team meetings or notify BTZ committee members directly. Employees may also place written concerns in an Employee Concerns Box, located in multiple areas across the site, or submit concerns and questions to "askjohn.com" where the company president answers questions and addresses issues raised by employees. Workers may also request a "step back" to pause work until an identified issue is addressed. Discussions with site staff noted an example when an employee's questioning attitude raised concerns about the west berm grade requirement that falls under the MPPB WIP. In response to the concern, work was paused, and the berm was examined for compliance. Once compliance was verified, work resumed. In a second instance, another employee's questioning attitude led to a "step back" during automated fire alarm system work to verify lock-out/tag-out (LOTO) needs and requirements. Supervisors followed established procedures and paused work. Once the LOTO process was verified, work resumed.

The site has established processes for responding to safety incidents. Industrial Safety staff stated that slips, trips, and falls were the most common incident types. After an incident occurs, applicable managers complete an investigation form in accordance with EIP-102, *Event Investigation Process*, and provide the form to safety staff for review. The occupational health nurse and Industrial Safety staff are included in follow-up fact finding meetings as applicable.

The Team discussed an Occurrence Reporting and Processing System reportable condition with site staff where two safety technicians discovered a smoldering extension cord in an unoccupied area. The cord was routed overhead on piping over a set of double doors with a severed end coiled on wet plywood next to a platform. The external duplex receptacle (circa 1960's) had no ground fault control indicator and had not tripped the breaker. The moldy condition of the cord indicated it may have been outdoors for an extended period of time. The site modified processes and implemented training to address the investigation results. Extension cord management has visibly improved across the site since the reportable condition was identified based on employee interviews. The maintenance electrical department now provide rigorous protection for exposed cables. Electricians and Industrial Safety staff monitor compliance routinely and occasionally remind workers to route cords up off the ground and out of walkways. Identified electrical deficiencies are being promptly addressed and corrected on the spot or reported when more extensive action is required. Trending and field observations have identified recurring issues with improper cord storage, primarily cords coiled on the floor. Training on the Assured Grounding Protection Program extension cord quarterly inspection process and returning unused cords to the tool crib have improved extension cord storage and use.

The site performs monthly trending per WVDP-503, Nuclear Safety/Worker Safety & Health Noncompliance Tracking and Reporting Manual, to identify emerging trends and programmatic issues. At least annually, Performance Assurance staff review all issues with causal codes in OITS, including Issue Reports, Fact Findings, and Occurrence Reports, for potential trends. The Team met with monthly CAS report contributors and reviewers from the Performance Assurance and Industrial Safety departments. Trends associated with the "Big 6," (radiological controls, hazardous energy, elevated work, hoisting and rigging, heavy equipment, and fire protection), are reviewed not only quantitatively but also qualitatively, such as the rollup of safety inspection findings under the Price-Anderson Amendment Act section. CAS reports are distributed monthly to site managers and contract oversight. Performance Assurance and ESH&Q staff also feed trend information and takeaways from CAS reports into various BTZ team or working group meetings to be discussed and addressed. Site staff described how recent electrical cord issues showing up on a "watch list" of two or more similar incidents in an 18-month period were discussed in a recent electrical safety meeting to solicit recommended solutions. Trending feedback loops like this provide actionable information to help workers and managers make decisions in the field that support safe work practices.

Conclusion

CHBWV continues to prioritize worksite hazard analysis and verification during operations planning and execution. Baseline hazard surveys are reviewed when developing WIP hazard analyses, and survey results are continually updated using a variety of monitoring techniques that are applied to daily operating decisions. CHBWV employs a combination of industrial safety walkdowns and management visits to verify safe operations and correct hazards. The site must continue to analyze those routine verifications to not only correct hazards but prevent them at the source. Employees knew and understood their responsibility to report hazards to supervisors or safety staff as well as their ability to stop work to address hazards. Hazards and incidents are investigated thoroughly by managers and safety professionals. The site uses extensive trending through the Performance Assurance group to monitor the status of safety actions and look for systemic concerns by rolling up isolated issues. CHBWV meets the expectations for Worksite Analysis and continued participation in DOE-VPP.

VI. HAZARD PREVENTION AND CONTROL

The third and fourth core functions of ISMS, identify and implement controls and perform work in accordance with controls, ensure that hazards are eliminated (by substitution or changing work methods) once they have been identified and analyzed or addressed by the implementation of controls (engineering controls, administrative controls, or PPE). Equipment maintenance processes are also considered to ensure requirement compliance. Additionally, emergency preparedness plans must be implemented to respond to and mitigate the impact of incidents. Safety rules and work procedures must be developed, communicated, and understood by supervisors and employees. These rules and procedures must also be followed by everyone in the workplace to prevent, control the frequency of, and reduce the severity of mishaps.

CHBWV maintains qualified professionals as resources to workers for safety and health needs. Industrial safety staff include a certified IH, certified safety professionals, an associate ergonomics professional, and a fire protection specialist. CHBWV also maintains a contract fire protection engineer on retainer. In addition to asbestos certified operators onsite and IHs performing asbestos monitoring, five New York-licensed Asbestos Containing Material technicians fulfill state-mandated asbestos monitoring requirements.

The Team confirmed that for the scope of work and size of the workforce at WVDP an adequate number of certified professionals are currently employed. Interviews with managers and workers did not raise any concerns about understaffed areas or safety initiatives that could not be implemented due to lack of certified resources. The safety and health and radiological control departments are staffed with certified safety professionals, IHs, and certified health physicists, respectively. Interviews with workers confirmed that certified professionals or safety technicians are involved with job walkdowns and regularly visit work areas.

Two full-time certified occupational health nurses staff the occupational health clinic, one per shift, and are available onsite four days per week. There is also a nurse or other certified first responders onsite for any overtime work. Both onsite nurses have associate degrees, and one is a volunteer firefighter and emergency medical technician. The site nurses are responsible for in person- clinic visits and are equipped to provide first aid and medical stabilization services in the event of an emergency until the arrival of first responders.

The site nurses are also responsible for gathering urine samples for drug testing of employees whose names appeared on the randomly generated list provided by Health Works of Western New York. The site nurses are responsible for current site employee testing, and drug testing of new hires is performed by Health Works of Western New York. The random drug testing list contains seven employees selected for the upcoming testing cycle and seven alternate names if a selected employee is no longer working onsite. The Site Occupational Medicine Director, located offsite at Health Works of Western New York, provides a list of employees due for an upcoming drug test to the Security Office and the site nurses approximately 40 days in advance of a possible scheduled urine sample.

CHBWV should reduce the amount of lead time provided to site nurses with the list of employees randomly selected for drug testing to minimize the appearance of possible impropriety. The recommendation is solely based on the opportunity to completely remove the

appearance of any potential wrongdoing during the random drug testing process as many family members work onsite.

Opportunity for Improvement: CHBWV should reduce the amount of lead time to provide site nurses with the list of employees randomly selected for drug testing to minimize the appearance of a possible impropriety.

The medical services at WVDP provided by site nurses and Health Works of Western New York are adequate and implemented in accordance with medical program requirements stipulated by 10 CFR 851. The occupational medicine service provider(s) have toured the plant to become familiar with the workplace and to remain current on operations that workers are performing. This aids in diagnosing injuries/illnesses and in understanding what type of restrictions would be necessary should an employee be injured or become ill on the job.

CHBWV requirements ensure that if a work crew is onsite, there is a least one certified first responder available. There are a total of nine certified first responders employed by CHBWV. For first responders to become certified, they must complete a 6-month course where an instructor from New York State comes onsite, and the prospective responders take classes two half days per week. As a testament to the commitment of workers at the WVDP, all nine workers passed the certified first responders certification exam on their first attempt.

There are four emergency medical technicians onsite in addition to the two nurses and nine certified first responders. All certified emergency medical technicians are volunteer firefighters and must complete approximately 6 to 7 months of training prior to being certified at their respective firehouses. The firehouse responsible for the site is completely staffed by volunteers, including some site workers. The fire department response time to the site is approximately 5 to 8 minutes depending on the time of day and how far the volunteers are from the site.

CHBWV operation and maintenance organizations work closely with industrial safety staff to plan work activities and address or eliminate hazards prior to work. Employees have ready access to information required to work safely via pathways like the CHAMPS System, a maintenance management software tool that generates work cards with procedures on how to perform the respective assigned maintenance tasks. CHBWV continues to make use of physical index cards with written maintenance procedures for legacy equipment onsite. Based on Team interviews and observations, some CHAMPS card instructions were developed assuming a high level of worker process knowledge. These assumptions lead to CHBWV relying on workers' experience and institutional knowledge to perform the work safely. However, as the experienced workers retire, a newer workforce could encounter possible problems when relying on the information provided by the physical index cards. CHBWV should update physical index cards with current maintenance procedures, including enough detail to prevent misunderstanding when less experienced workers are required to perform the work.

Opportunity for Improvement: CHBWV should update physical index cards with current maintenance procedures, including enough detail to prevent misunderstanding when less experienced workers are required to perform the work.

Preventive maintenance (PM) and predictive maintenance activities are performed on schedule and safely at WVDP. PM cards are generated at the end of the month and categorized from most to least critical to determine task priority. A list of maintenance activities is generated by the CHAMPS system and provided to the Engineering and Planning Group at the end of each month to be completed in the following month. The Team's review identified that workers from the Engineering and Planning group do not have full access to the CHAMPS database and rely on administrative staff to manage the aging software. The process limits Engineering and Planning Group's ability for proactive, long-term planning. Additionally, CHBWV does not have a welldefined PM feedback loop. Corrective maintenance or other equipment modifications do not automatically drive a review or update to associated PM by procedure. An incomplete picture of maintenance activities on equipment limits the ability of engineering staff to perform thorough asset management. CHBWV should evaluate measures to enhance the Engineering and Planning Group capabilities for long-term PM planning and incorporate PM feedback into procedures. CHBWV should consider actions such as expanding CHAMPS access, enabling documentation of corrective maintenance by technicians, and requiring PM review as part of the work instruction closeout process during work on assets.

Opportunity for Improvement: CHBWV should evaluate measures to enhance the Engineering and Planning Group's capabilities for long-term PM planning and incorporate PM feedback into procedure. CHBWV should consider actions such as expanding CHAMPS read access, enabling documentation of corrective maintenance by technicians, and requiring PM review as part of the work instruction closeout process during work on assets.

The directive WVDP-585, *WVDP Worker Safety and Health Plan,* outlines program requirements and guidelines for safe operations, including confined space entry, LOTO, and PPE use. Interviews with CHBWV staff and walkthroughs at various facilities revealed strong employee awareness of hazards and mitigation measures along with examples of proper PPE usage during work operations.

The PPE Committee meets quarterly and takes a proactive approach in procuring, evaluating, and approving PPE products. Vendors are invited to the site several times per year to showcase products for supervisor and employee evaluation. Workers appreciate the opportunity to see, feel, and test new products. The work planners have access to a list of appropriate PPE for tasks and ensure the adequate PPE is listed for all tasks in a WIP. Each SME coordinating on the WIP reviews the WVDP-3909, *Activity Hazards Analysis*, form and ensures the PPE listed is suitable for the work performed. The industrial safety department also reviews all WIPs, performing a validation of the required PPE.

When subcontractors are hired to perform work onsite, their safety plans are evaluated to ensure compliance with all site requirements, and a Subcontractor Technical Representative (STR) is assigned as an immediate point of contact with CHBWV. STRs are essential to the subcontractor work process as they monitor the subcontractor work and assist in the coordination of efforts between entities. They are well organized and have a strong relationship with the subcontractors. An STR interviewed during a Team facility walkdown demonstrated adequate hazard recognition and understanding of abatement methods to address potential worksite hazards. The STR was also able to satisfactorily explain the emergency management procedures applicable to subcontractors under his supervision in the event of an emergency.

IHs perform air monitoring for the site during both shifts. Dust monitoring is performed to illustrate potential contamination spread over the total site area. Elevated noise issues are reported in morning and/or afternoon meeting announcements.

The Team observed adequate tracking and trending of hazards and deficiencies during the assessment. Lessons learned are shared among the work groups onsite when hazardous trends are identified by CHBWV. The hazards being tracked are grouped into three categories as follows: (1) Occurrence Reporting and Processing System reportable items (most significant), (2) non-reportable items in which a fact finding takes place, and (3) "Issue Reports" a category designated to track noncompliance items that do not require a fact finding or meet the criteria for Occurrence Reporting and Processing System. CHBWV groups hazards into the "Big 6" categories of most common and dangerous hazardous for worker exposure. The categories are radiological controls, hazardous energy, elevated work, hoisting and rigging, heavy equipment, and fire protection. Less serious hazards are discussed in day-to-day crew briefings. If potential patterns are identified, they are addressed immediately.

If a hazardous condition arises as a result of an incorrect procedure, a "step back" is performed, and lessons learned are shared via email and hardcopy for workers without computers. Hazards not categorized in the "Big 6" category may be shared via lessons learned if management decides to generate an organizational awareness alert, based on the potential impact to operations. The site tracks safety and health items in the OITS.

During walkthroughs of facilities, the Team observed multiple blocked electrical panels, blocked access to electrical disconnect switches, inadequate housekeeping, and improper storing of materials on storage racks. Other deficiencies included oxygen and acetylene tanks stored together when not in use, improper usage of power strips, and a fire extinguisher not properly mounted to the wall. CHBWV should review its workplace inspection policies, procedures, training, and qualification requirements to ensure that affected workers are familiar with common hazards and safety related deficiencies and have the workspace and storage to prevent such issues.

Opportunity for Improvement: CHBWV should review its workplace inspection policies, procedures, training, and qualification requirements to ensure that affected workers are familiar with common hazards and safety related deficiencies and have the workspace and storage to prevent such issues.

CHBWV utilizes the hierarchy of controls to limit employees' exposure to hazards and protect the environment. An example includes the process change of using wet saws mounted on backhoes for the demolition process. The mounted saws limit employee exposure, while creating a more efficient process. Administrative controls include establishing a separate path onsite for foot traffic, controlling the hazard of pedestrian traffic conflicting with vehicle and heavy equipment traffic. BTZs were actively engaged in identifying legacy hazards and appropriate controls. Workers understand the philosophy that work must be done safely and compliantly, even if that work must be delayed or stopped temporarily, to establish the appropriate controls.

A second example of CHBWV's use of the hierarchy of controls is illustrated in the process used for shipment of MPPB demolition waste. CHBWV ships radioactive materials via intermodal

containers that contain a special lining bag reinforced with plywood to provide greater stability during travel and disposal operations. This process ensures that waste is safe for transport and disposal while minimizing the probability of employees being exposed to radioactive material.

A third example of hierarchy of controls was demonstrated at the beginning of the MPPB demolition project when problems arose during the movement of intermodal containers in and out of the work zone. A reach stacker was purchased to facilitate the process of loading and unloading the containers from the train cars. This piece of equipment facilitates the relocation of the containers without having the need for an employee to manually handle the container. The "Demo" group at the WVDP purchased a reach stacker and the waste department purchased another one to speed up handling the intermodal containers. A third reach stacker is available for spare parts to facilitate maintenance of equipment and ensure the demolition of the MPPB is not interrupted due to a reach stacker failure.

CHBWV utilization of engineering controls was demonstrated using a remotely controlled quarry saw performing wet cutting. The saw was utilized to cut a section of the building where there was a concern for airborne contamination if hammer or shear operations were used. Use of the quarry saw greatly reduced the amount of airborne dust during the process. The remote operation provided greater freedom and flexibility in performance of the work.

In addition to the use of special tools and equipment to facilitate demolition activities the workers, engineers, and SMEs have worked together to optimize the movement of hazardous waste onsite. The demolition plan calls for a minimum of four intermodal waste containers being generated per day. However, because of the increased efficiency of demolition operations, there are days when up to seven intermodal containers of waste are generated. Intermodal containers are loaded and sent via rail within 7 days of being filled. There are a total of 250 intermodal containers in circulation onsite, determined based on the turnaround time from generation of waste to disposal. The intermodal containers are reusable and once the waste is discarded, they are sent back to WVDP and subsequently to the Drum Cell Facility for placement of the special lining bag and plywood in preparation for reuse.

CHBWV made extensive use of mockups to practice hazardous work in a nonhazardous environment. CHBWV used a mockup for the headend filter changeout. The filters had been in service for more than 25 years, and the removal of the filters was determined to present the potential for high radiation exposure to workers removing the filters. The mockup simulated onehalf of the filter changeout room and included the floor cutouts. The mockup "room" was elevated 12 feet off the ground to accommodate the below-room filters. The mockup used the warehouse overhead crane with an electromagnetic lifting attachment to "grab" the metal plates attached to the filter housings. Using the mentoring process that recognized experienced workers' knowledge, CHBWV contacted workers who had performed filter changeouts more than 25 years ago to discuss past work methods. The experience workers noted that the metal plates were added many years ago to the filter housing to allow filter removal using electromagnets. The preparation measures, including mockups operating experience use, reduced worker exposure time and prepared workers for real conditions, greatly benefiting overall process safety and efficiency. CHBWV conducts annual site evacuation drills and other periodic drills. CHBWV also performs annual fire drills at the AOC. Nearby volunteer fire departments provide fire and medical response.

CHBWV has a strong positive reinforcement culture where workers are recognized for their work accomplishments. In addition to supervisory nominations, employees can nominate each other for a job well done. This culture of employee recognition creates a work environment where everyone is focused on safety.

CHBWV has several recognition awards offered throughout the year to employees. Those recognition awards include participation awards for employees who attend optional training, safety committees, or stretching challenges. The attendees receive a raffle ticket for each event attended, and a winner is selected from the group. CHBWV also has a monthly drawing for all employees nominated for Safety Achiever or on the spot nomination given by management or BTZ leadership. Two winners are selected from the monthly drawing. A similar award is given on a quarterly and annual basis. CHBWV also incorporates a monthly safety recognition program in which individuals submit recognition of fellow employees who identify safety concerns or act in a safe manner above or beyond normal expectations. Although these existing recognition programs are valuable, recognition by raffle may convey the impression that they are only rewarded for safe activities by chance. A direct recognition and reward process for managers would more clearly tie reward to individual activity. For example, the program could use "Safety Point Cards" to reward employees, and those safety points could be used by employees to select from the safety store items. CHBWV should consider implementing a program to allow managers to recognize individuals directly and reward at the time of recognition for their exceptional performance.

Opportunity for Improvement: CHBWV should consider implementing a program to allow managers to recognize individuals directly and reward at the time of recognition for their exceptional performance.

CHBWV also possess a strong and fair disciplinary system where guidelines, stipulated by procedure WV-548, *Disciplinary Action*, are applied consistently and objectively. This procedure includes the standard of conduct utilized to categorize violations into three categories: (1) suspension up to discharge, (2) written warning, and (3) documented verbal, or coaching. The Team and CHBWV staff discussed several examples of disciplinary process implementation. The disciplinary process is applied only after thorough fact-finding investigations to determine the circumstances leading up to incidents. CHBWV uses the fact-finding efforts to ensure fair application of disciplinary actions and keep the primary focus on correcting the root issue, not applying reactive discipline.

CHBWV maintains an electrical safety committee that meets regularly and has appointed an electrical Authority Having Jurisdiction over all electrical areas onsite. CHBWV has made progress in implementing National Fire Protection Association 70E, *Standard for Electrical Safety in the Workplace*[®], arc flash labelling requirements and has created a ground fault circuit interrupter master list. Electrical PPE conforming to NFPA 70E is available and maintained in proper work conditions. CHBWV has an adequate LOTO program that subcontractors use when

conducting work onsite. During the 5 years prior to this assessment, there have not been any reportable occurrences from LOTO events.

The hoisting and rigging program is adequate and ensures lifting activities and equipment are safe for employee use. Besides regular assessments of work activities, the hoisting and rigging committee demonstrates a continuous improvement mentality by identifying the need for retraining of employees during ongoing operations of the MPPB demolition. The Team was also able to observe the inspection of an overhead crane during the site visit. The inspection was conducted in-depth, and all safety and structural components of the crane were inspected with a checklist to ensure an adequate working condition. The inspectors of the overhead crane were competent and able to answer all questions satisfactorily.

Conclusion

CHBWV developed processes and work procedures to address/analyzed hazards and communicates those processes via training, worker engagement meetings, and company webpage posting. Managers and workers understood the hierarchy of controls applied to their various work area hazards and feel confident in their ability to talk to certified safety professionals when needed. Managers and safety professional successfully strive to ensure proper PPE access and use for all work needs. CHBWV uses specific activity mockups successfully to protect workers, reduce dose, and meet schedule deadlines. Workers have demonstrated extensive employee involvement in hazard prevention and control by regularly providing solutions to challenging problems presented by hazardous work. Despite its relatively small operational footprint, CHBWV provides workers with extensive occupational medicine support, incident response capabilities, such as Automated External Defibrillators emergency services, and opportunities to engage in their own health and wellbeing. CHBWV meets the expectations for Hazard Prevention and Control methods. CHBWV meets the expectations for Hazard Prevention and Control and continued participation in DOE-VPP.

VII. SAFETY AND HEALTH TRAINING

Managers, supervisors, and employees shall know and understand the policies, rules, and procedures established to prevent exposure to hazards. Training for health and safety shall ensure that personnel understand their responsibilities, recognize hazards they may encounter, and act in accordance with management expectations and approved procedures.

This review determined that CHBWV continued to have a well-established and documented training and qualification program that trains workers appropriately to recognize hazards and protect themselves and their coworkers. Training and qualifications records were current, and workers did not perform activities for which training and qualification requirements had expired. Supervisors were engaged in managing and monitoring employee training inputs and could verify that training requirements were current before assigning work tasks. CHBWV provided numerous reminders, postings, required reading subjects, and lessons learned safety topics to encourage safety awareness at the site.

In 2021, CHBWV implemented a system named Train Tracks to track employees' required training. Reports generated by Train Tracks are distributed monthly with a 45-day lookahead to inform managers of upcoming or expired employee training. Train Tracks and OITS are used in conjunction to track employee required training and upcoming due dates. The 45 days lead time is crucial when scheduling training for operators because in some instances outside training vendors need to be hired. Employees involved in asbestos work are required to be certified by the State of New York, which issues asbestos certifications directly to the workers via state licensed trainers. Asbestos workers must provide a copy of their certification to the CHBWV Training Department and to their supervisors daily before performing asbestos work.

CHBWV continues to use procedure WVDP-126, *Performance Based Training Program Manual,* to implement the training requirements for the site. WVDP-126 uses a systematic, graded approach based upon five distinct phases, i.e., analysis, design, development, implementation, and evaluation, to develop training programs that ensure trainees gain the knowledge and skills to perform tasks in a reliable, safe, and quality-minded manner. Managers, supervisors, and employees may undergo written examinations, oral boards, or demonstrations of proficiency to validate the effectiveness of their training.

The CHBWV Training Manager receives informal employee feedback on training, tracks completion percentages for training/retraining, and monitors employee engagement in classrooms. Based on these data gathering techniques the Team concluded that employees are receiving adequate safety and health training commensurate with their job functions. However, the effectiveness of the training being offered to employees should be validated by gathering information from students after course completion. The development of a survey to gauge the effectiveness of training will help CHBWV maintain the established continuous improvement culture onsite. The CHBWV Training Group should evaluate the effectiveness and satisfaction of employees with site training, including online training in a formal matter by gathering feedback via training satisfaction surveys.

Opportunity for Improvement: The CHBWV Training Group should evaluate the effectiveness and satisfaction of employees with site training, including online training in a formal matter by gathering feedback via training satisfaction surveys.

WVDP-126 requires a new or transferred employee's supervisor to complete form WVDP-1392, *WVDP Health and Safety Training Profile*. The profile form has two parts. Part I identifies the health and safety training required for the job function, such as General Employee Training (GET), silica training, and electrical safety. Part II contains the job qualification and training requirements, such as radiation worker, asbestos worker, medical requirements, respirator fit testing, Hazardous Waste Operations and Emergency Response training. The supervisor forwards the completed form to the training and medical departments for scheduling.

For union workers, the CHBWV training department works in conjunction with project managers to develop the Program Description (PD) and Continuing Training Plan. The PD is a pre-analyzed set of training requirements for union workers based on job function classification, e.g., maintenance, operators, technicians, etc. The PD identifies the preselected training requirements for workers in specific job classifications so that supervisors do not have to develop new training plans for every new employee. CHBWV reviews the PDs at least once a year to ensure they are correct and accurately reflect the training requirements. This process ensures CHBWV identifies proper and consistent training for the union workers.

The COVID-19 Pandemic negatively impacted the job training for operators and office workers as new employees did not have the opportunity to observe day-to-day activities and operations or learn from their peers, however, the training breakdown between online and in-person training courses being offered onsite is back to pre-pandemic levels, and this is no longer a concern.

CHBWV managers and supervisors ensure employees receive proper training and that job descriptions are current. SMEs provide experienced resources to the training department on a variety of subjects, provide on-the-job-training, and assist in developing procedures, examinations, and training materials. SMEs also provide classroom instruction in their subject area when needed. The majority of the training at CHBWV takes place in-person, and employees interviewed by the Team confirmed that they are receiving adequate training.

The site requires that all new WVDP employees, including subcontractors complete GET and take a 25-question examination with a required score of 80 percent to pass. The Training Group provides a required reading "Annual Refresher" that reinforces the GET material and site requirements. GET recertification is on a biennial basis and provides a test-out option. CHBWV gives students three opportunities to pass the test. If the worker fails all three attempts, they must retake the entire GET computer-based training. Employees take GET in a classroom or individually depending on the number of people that require training. GET training information includes site and basic safety requirements, conduct of operations, equal employment opportunity, access, contacts, emergency response, ISMS, and DOE-VPP highlights. Employees who do not maintain their biennial GET training certification are denied card reader access to the site and may be required to surrender their badges to security at the gatehouse. The Team reviewed the GET and the 2020/21 Annual Briefing Training and found no issues or concerns.

To ensure workers complete annual training, the Training Group conducts block training for the operations workers. Block training increases efficiency and facilitates management of the training program while allowing individuals to ask questions and share lessons learned from similar work assignments.

In 2023, following the Christmas and New Year's 1-week shutdown, a 2-hour all hands meeting was held to discuss project status and ensure that employees were mentally prepared to start work. CHBWV schedule's block training the first week of January each year, which also reinforces safety expectations after the holidays.

The Training department maintains a training requirement verification checklist that provides the status of training qualifications of workers that all supervisors can access electronically. CHBWV expects supervisors to refer to the checklist prior to assigning employees work and confirm they have completed the required training to perform the assigned work task.

The Emergency Management Coordinator also maintains the Emergency Management Strict Order of Call List that contains the name of employees who could respond to an onsite emergency and have completed the required Incident Command System 100 and National Incident Management System 700 courses. A total of 157 employees are fully trained and qualified to respond to an onsite emergency.

During the assessment, the Team was able to observe a confined space rescue training course. Instructors appeared knowledgeable and skillful in the techniques and procedures required to adequately conduct a rescue or recovery of a trapped employee inside a confined space. Students were engaged and asked probing questions to enhance their learning capabilities. The facility training environment was conducive to training and provided the instructors and students with the tools and equipment needed to conduct the training adequately. The training was provided by the Confined Space Rescue Team. Adequate training of employees is critical when performing work in a hazardous work environment. CHBWV makes training of simulated rescues an integral part of employee training.

CHBWV publishes" Safety Speaks" to reinforce employee awareness of hazards both at home and in the workplace and issues "Safety Shares" as part of its Safety Assessment Center process. CHBWV also informs employees about recent changes or new information through a required reading program. Employees are required to read and sign that they have accomplished the required reading and understand the information. For example, CHBWV had a recurring issue with extension cords being daisy chained, running cords through doorways, and overloading of extension cords. This issue was notified to employees via "Safety Speaks" and adequate training in the proper use of extension cords was provided.

CHBWV assists its employees' career growth through established reimbursement policies, such as the educational reimbursement and professional certification programs. Any worker employed by the company more than 6 months is eligible to apply for the tuition reimbursement program. CHBWV does not specify to employees the types of degrees of study, however, the selected coursework of study must be related to CHBWV's mission. The selection process works on a "first come, first serve" basis. The Human Resources manager informed the Team that over the past 3 years, no employee has been rejected from participating due to a lack of funding. The reimbursement levels for course work at the associate, bachelor's and master's level is \$5,200,

and a passing grade of C (associate/bachelor's) or B (master's) must be achieved to qualify for tuition reimbursement. There are currently six employees enrolled in the tuition reimbursement program. Two employees are working on completing master's level graduate work and four are working on bachelor's level studies.

CHBWV also supports employee accreditation in the Safety-Trained Supervisor (STS) program from the Board of Certified Safety Professionals. However, workers participating in the tuition reimbursement and STS programs are required to achieve accreditation on personal time. The training group does not actively track employee involvement in the STS program because certification occurs independent of the training department.

CHBWV provides a pocket-sized CHBWV Safety Toolbox Handbook, referred to as the "Flippy Book," as an additional "on the go" source of safety guidelines and requirements. The handbook was last updated in August 2021 and is now on Revision 8. The handbook contains emergency information, the CHBWV BTZ safety culture message, information on DOE-VPP, an explanation of 10 CFR 851, ISMS, CHBWV's Safety Framework, and Environmental Management System description.

Conclusion

The CHBWV safety and health training program continues to provide workers, supervisors, and managers with adequate training. The Training Group has established processes to ensure training and qualification records are current. CHBWV uses program descriptions to analyze and define workers' required training by work task to establish appropriate training requirements. CHBWV provides numerous reminders, postings, required reading subjects, and lessons-learned safety topics to encourage safety awareness at the site. CHBWV meets the expectations for Safety and Health Training and continued participation in DOE-VPP.

VIII. CONCLUSIONS

CHBWV continues to maintain a strong safety culture that is ingrained in its workforce and promoted by management. The site's management has reinvigorated employee engagement opportunities such as BTZ teams and the SCIC, and CHBWV recognizes that employee-driven initiatives are strong drivers of positive change. The work priority shift to MPPB demolition has been a major influence on site operations, but managers and the workforce have made significant efforts to thoroughly plan demolition activities and consistently analyze and control hazards in the new work environment. The site has an active employee base, willing and ready to raise concerns, as well as a responsive senior management team that has taken recent employee work stoppage feedback seriously. Interviewed workers consistently took responsibility for their part in contributing to a safe work environment for themselves and their peers. The Team identified some opportunities for improvement that will help CHBWV continue to empower its workforce and recognize the strengths of its staff. The Team did not identify any programmatic noncompliance with DOE safety requirements that would preclude participation in DOE-VPP. CHBWV continues to meet all the expectations for DOE-VPP, and the Team recommends CHBWV continue to participate in DOE-VPP at the Star level.

Appendix A: Onsite DOE-VPP Assessment Team Roster

Management

Todd N. Lapointe Director Office of Environment, Health, Safety and Security

Christopher J. Roscetti Deputy Director for Environment, Health and Safety Office of Environment, Health, Safety and Security

Kevin L. Dressman Director Office of Health and Safety Office of Environment, Health, Safety and Security

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Review Team

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Team Leader			
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Moises Atiles	DOE/EHSS Safety and Health Trainin		
		Hazard Prevention and Control	
Robert N. Meloche	DOE/EHSS	Worksite Analysis,	
		Hazard Prevention and Control	
Matthew M. Ramsey	DOE/EHSS	Worksite Analysis,	
		Management Leadership	